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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,189	12/21/2001	Michael J. Emery	I20 01530 US	9516

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EXAMINER

LU, KUEN S

ART UNIT	PAPER NUMBER
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2167

DATE MAILED: 01/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/026,189

Applicant(s)

EMERY ET AL.

Examiner

Kuen S Lu

Art Unit

2167

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/2/2004 (2 pages)</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendments

1. The Action is responsive to the Applicant's Amendments, filed on August 25, 2004.
2. In responding to Applicant's Amendments, the correction to the typographical error of the specification is noted and considered by the Examiner.
3. In responding to Applicant's Amendments made to the claims where new issues were introduced to each of the independent claims and the addition of new claims 34-37, the Examiner has created this Office Action for Final Rejection (hereafter "the Action") as shown next. Also noted and considered by the Examiner is the PTO-1449 form, filed on November 2, 2004.
4. As for the Applicant's Remarks on claim rejections, filed on August 25, 2004, has been fully considered by the Examiner, please see discussion in the section ***Response to Arguments***, following the Action.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchihara et al. (U.S. Patent 5,818,713, hereafter "Uchihara") and in view of Wacławsky et al. (U.S. Patent 5,974,457, hereafter "Wacławsky")

As per Claims 1, 6 and 30, Uchihara teaches the following:

Method and computer system for "collecting a time series data of a time varying parameter of said process, wherein said data is generated by a device" at Fig. 8, elements 1-2, 16s and 19s, Fig. 5 and col. 13, lines 15-36, col. 12, lines 36-40 where time series data of plant process generated by a plant equipment is input via process i/o unit and collected in the recording unit utilizing a computer system consisting of storage, processing units and display peripheral; and

"processing said time series data for categorization according to a data structure that includes a representation of said device and that defines said time varying parameter and an activity having an interval that frames said time varying parameter" at Fig. 9, elements 16s and 19s, and col. 13, lines 37-61 where time series data is processed for categorizing the data structure in according to inferences, system diagram, equipment name and time series data for being displayed on the CRT unit.

Uchihara does not specifically teach "based on said data structure, storing said processed time series data in a memory", although Uchihara teaches based on said data structure, displaying said processed time series data in a CRT unit at Fig. 9, elements 16s and 19s, and col. 13, lines 37-61.

However, Waclawsky teaches storing processed time series data at Fig. 1B-1, elements 140 and 195, and col. 4, lines 33-36 where network traffic data is stored in array buffer and transferred to the accumulated storage.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine Waclawsky's teaching with Uchihara reference by storing the processed time series data for further utilization because both references are devoted to data collection and analysis where Waclawsky reference benchmarking process behavior to establish criteria for process monitoring and control while Uchihara reference utilizing inference knowledge to improve data reliability. The combined reference would have enhanced the Uchihara system to check and analyze a process fault reliably.

As per Claims 2 and 7, Waclawsky further teaches "data structure includes an activity structure that comprises an identity and a plurality of activity attributes" at Table 1 where time in hour:min is the identity of each network traffic activity and #frames/min and #tokens are two of the activity attributes.

As per Claims 3 and 8, Waclawsky further teaches "activity attributes are selected from the group consisting of: start time, end time, time varying parameter and item used in said process" at Table 1 where activity attributes with time varying parameters such as #frames/min and #tokens/min are collected with time starting at the beginning of the minutes and ending at the starting of the next, and the item used in the network activity

monitoring process is the intelligent real time monitoring system as described at Figs. 1A-1B and col. 4, lines 9-40.

As per Claims 4 and 9, Wacławsky further teaches “wherein at least one of said activity attributes has an attribute value” at Table 1 where attributes parameters #frames/min and #tokens/min each has one numerical value every minute.

As per Claims 5 and 10, Uchihara teaches “item is an equipment, and wherein said time series data is linked to said device, which is a part of said equipment” at Fig. 9, elements 16s and 19s, and col. 13, lines 37-61 where time series data is linked to plant equipment via process i/o and data processing units.

As per Claims 11, 20 and 29, Uchihara teaches method and computer system for retrieving time series data of a process stored in memory at Fig. 8, elements 1-2, 16s and 19s, Fig. 5 and col. 13, lines 15-36, col. 12, lines 36-40 where time series data of a process linked to a plant equipment is collected, stored, retrieved, processed and displayed.

The Uchihara reference does not specifically teach “identifying an activity of said process”, although the reference teaches using inference data to analyze process data for detecting a fault equipment at col. 2, lines 10-23.

However, Waclawsky teaches "identifying an activity of said process" at col. 16, lines 18-20 where the type of network traffic is identified and at col. 2, lines 41-44 where the ICA performs the functions of real-time identification of events occur on the network.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention was made to combine Waclawsky's teaching with Uchihara reference by directly identifying time series data corresponding to its activity of a process for further utilization because both references are devoted to data collection and analysis where Waclawsky reference benchmarking process behavior to establish criteria for process monitoring and control while Uchihara reference utilizing inference knowledge to improve data reliability. The combined reference would have enhanced the Uchihara system to check and analyze a process fault reliably.

The combined Waclawsky-Uchihara reference further teaches the following:
"identifying a time varying parameter of said time series data that is framed by an interval of said activity and a device that generated said time series data of said time varying parameter" (See Waclawsky: Figs. 10D-10E and col. 15, lines 22-28 where benchmarking in progress for charactering the parameters of #frames/min and #tokens/min, and Uchihara: Fig. 9, elements 16s and 19s, and col. 13, lines 37-61 where time series data is generated by a plant equipment via process i/o and data process units, and processed for categorizing the data structure in according to inferences, system diagram, equipment name and time series data for being displayed on the CRT unit); and

“processing said activity, a representation of said device and said time varying parameter to access said memory to retrieve said time series data” (See Waclawsky: Fig. 1B-1, elements 140 and 160, and col. 7, lines 43-60 where traffic activity parameters data, including frames and tokens are retrieved from the buffer and processed by expert system analysis unit, and Uchihara: Fig. 9, elements 16s and 19s, and col. 13, lines 37-61 where result of inferences includes data structure displaying name of equipment for representation of the faulted device).

As per Claims 12 and 21, Waclawsky further teaches “data structure includes an activity structure that comprises an identity and a plurality of activity attributes” at Table 1 where time in hour:min is the identity of each network traffic activity and #frames/min and #tokens are two of the activity attributes.

As per Claims 13 and 22, Waclawsky further teaches “activity attributes are selected from the group consisting of: start time, end time, time varying parameter and item used in said process” at Table 1 where activity attributes with time varying parameters such as #frames/min and #tokens/min are collected with time starting at the beginning of the minutes and ending at the starting of the next, and the item used in the network activity monitoring process is the intelligent real time monitoring system as described at Figs. 1A-1B and col. 4, lines 9-40.

As per Claim 14 and 23, Wacławsky further teaches “wherein at least one of said activity attributes has an attribute value” at Table 1 where attributes parameters #frames/min and #tokens/min each has one numerical value every minute.

As per Claims 15 and 24, Uchihara teaches “item is an equipment, and wherein said time series data is linked to said device, which is a part of said equipment” at Fig. 9, elements 16s and 19s, and col. 13, lines 37-61 where time series data is linked to plant equipment via process i/o and data processing units.

As per Claims 16 and 25, Wacławsky further teaches “identifies said time varying parameter with a reference selected from the group consisting of: time based reference with respect to said interval, direct reference to said activity and indirect reference to said activity” at col. 12, lines 44-67 where benchmark data sets are utilized to input as a reference to the criteria module to compare the historical data in the benchmark data set to the current monitoring information given by the event vectors for frame and token flow rate.

As per Claims 17 and 26, Wacławsky further teaches “time based reference is with respect to a parameter that is independent of said process” at col. 12, lines 44-67 where benchmark data sets are utilized to input as a reference to the criteria module for comparing the historical data in the benchmark data with current information and the reference is not currently collected.

As per Claims 18 and 27, Waclawsky further teaches "direct reference directly refers to said activity" at at col. 12, lines 44-67 where benchmark data sets are utilized to input as a reference to the criteria module for comparing the historical data in the benchmark data with the current information and the reference data directly refers to network traffic.

As per Claims 19 and 28, Waclawsky further teaches "indirect reference includes a reference to an equipment used by said process during said activity" at col. 12, lines 44-67 where benchmark data sets refers to the same intelligent real-time monitoring of traffic data.

As per Claims 31, 32 and 33, the combined Waclawsky-Uchihara reference further teaches the following:

"processing said time series data based on a representation of a device that generated said time series data and an activity that has an interval that frames said time series data" (See Waclawsky: col. 7, lines 43-60 where network traffic activity data is processed, and Uchihara: Fig. 9, elements 16s and 19s, and col. 13, lines 37-61 where time series data is generated by a plant equipment via process i/o and data process units, and processed for categorizing the data structure in according to inferences, system diagram, equipment name and time series data for being displayed on the CRT unit); and

“processing said activity, device representation and said time varying parameter to access a memory to store and retrieve said time series data” (See Waclawsky: col. 7, lines 43-60 where the data is retrieved from data buffer and processed in the Expert System Analysis Unit and processed time series data is stored at Fig. 1B-1, elements 140 and 195, and col. 4, lines 33-36 where network traffic data is stored in array buffer and transferred to the accumulated storage, and Uchihara: Fig. 9, elements 16s and 19s, and col. 13, lines 37-61 where result of inferences includes data structure displaying name of equipment for representation of the faulted device).

As per claims 34 and 35, Uchihara teaches “wherein said item comprises said representation of said device” at Fig. 9, elements 16s and 19s, and col. 13, lines 37-61 where result of inferences includes data structure displaying name of equipment for representation of the faulted device.

As per claims 36 and 37, Uchihara teaches “wherein said item comprises said representation of said device” at Fig. 9, elements 16s and 19s, and col. 13, lines 37-61 where result of inferences includes data structure displaying name of equipment for representation of the faulted device.

Response to Arguments

7. The Applicants’ arguments filed on August 25, 2004 have been fully considered but they are not persuasive, for the Examiner’s response, please see discussion below:

a). At Pages 12-13, the Applicant argued that the Wacławsky reference does not teach the following:

- time series data is "generated by a device";
- time series data is "processed for categorization";
- time series data is being stored and retrieved "based on the representation of the device and the activity"; and
- "a computer apparatus".

As to the above arguments, the Examiner respectfully agreed, however, the non-Final Office Action was drafted based on the specific claim limitations as filed on December 21, 2001. Every teaching as listed above was amended after the non-Final Office Action. Based on the Amendment, filed on August 25, 2004, with limitations introduced to every dependent claim and dependent claims newly added, the Examiner has introduced the Uchihara reference and created the Final Office Action as previously described for rejecting the amended and newly added claims, while maintaining the same cited reference for rejecting the originally presented claims.

8. The prior art made of record

A. U.S. Patent 5,974,457

G. U.S. Patent 5,818,713

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

B. U.S. Patent 6,633,823

C. U.S. Publication 2003/0014498

D. U.S. Patent 6,625,567

E. U.S. Patent 6,590,507

F. U.S. Publication 2002/0165733

Conclusions

9. THIS ACTION IS MADE FINAL.

The Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

10. The prior art made of record, listed on form PTO-892, and not relied upon, if any, is considered pertinent to applicant's disclosure.

If a reference indicated as being mailed on PTO-FORM 892 has not been enclosed in this action, please contact Lisa Craney whose telephone number is 571-272-3574 for faster service.

Art Unit: 2167

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuen S Lu whose telephone number is 571-272-4114.

The examiner can normally be reached on 8 AM to 5 PM, Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on 571-272-4107. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Kuen S. Lu


Patent Examiner

January 15, 2005



Luke Wassum

Primary Examiner

January 15, 2005